

IN THE CLAIMS:

Please amend claims 1, 9 through 12, 20, and 21 as follows:

1. (CURRENTLY AMENDED) A method of part flow ~~model~~ for a programmable logic controller logical verification system, said method comprising the steps of:

constructing a simulation model of a part flow model in a manufacturing line using a computer;

determining ~~whether~~ if the part flow represented in the simulation model is ~~acceptable~~ correct; and

using the part flow simulation model to test PLC code and implementing to build a the manufacturing line according to the part flow simulation model.

2. (ORIGINAL) A method as set forth in claim 1 wherein said step of constructing comprises selecting a part generator.

3. (ORIGINAL) A method as set forth in claim 2 wherein said step of constructing further comprises generating a part with the part generator.

4. (ORIGINAL) A method as set forth in claim 3 wherein said step of constructing further comprises moving the generated part to a location.

5. (ORIGINAL) A method as set forth in claim 4 wherein said step of constructing further comprises testing the generated part at the part location.

6. (ORIGINAL) A method as set forth in claim 1 wherein said step of constructing comprises constructing a record for the part.

7. (ORIGINAL) A method as set forth in claim 6 wherein the record has at least one resource.

8. (ORIGINAL) A method as set forth in claim 7 wherein the at least one resource has at least one capability.

9. (CURRENTLY AMENDED) A method as set forth in claim 1 including the step of generating PLC code if the part flow represented in the simulation model is ~~acceptable~~ correct.

10. (CURRENTLY AMENDED) A method as set forth in claim 1 including the step of modifying the part flow represented in the simulation model if the part flow represented in the simulation model is not ~~acceptable~~ correct.

11. (CURRENTLY AMENDED) A method as set forth in claim 1 wherein said step of constructing further comprises ~~playing~~ executing the simulation model of the part flow model by, wherein the simulation model interacts with a PLC logical verification system.

12. (CURRENTLY AMENDED) A method for application of a part flow ~~model~~ for a programmable logic controller logical verification system, said method comprising the steps of:

constructing a simulation model of a part flow model in a manufacturing line
using a computer;

~~playing~~ executing the simulation model of the part flow model by, wherein the
simulation model interacts with a PLC logical verification system;

determining ~~whether~~ if the part flow ~~model is acceptable~~ represented in the
simulation model is correct;

testing PLC code if the part flow simulation model is ~~acceptable~~ correct; and

using the tested PLC code ~~to build a~~ and implementing the manufacturing line
according to the part flow simulation model.

13. (ORIGINAL) A method as set forth in claim 12 wherein said step of
constructing comprises selecting a part generator.

14. (ORIGINAL) A method as set forth in claim 13 wherein said step of
constructing further comprises generating a part with the part generator.

15. (ORIGINAL) A method as set forth in claim 14 wherein said step of
constructing further comprises moving the generated part to a location.

16. (ORIGINAL) A method as set forth in claim 15 wherein said step of
constructing further comprises testing the generated part at the part location.

17. (ORIGINAL) A method as set forth in claim 12 wherein said step of
constructing comprises constructing a record for the part.

18. (ORIGINAL) A method as set forth in claim 17 wherein the record has at least one resource.

19. (ORIGINAL) A method as set forth in claim 18 wherein the at least one resource has at least one capability.

20. (CURRENTLY AMENDED) A method as set forth in claim 1 including the step of modifying the part flow represented in the simulation model if the part flow represented in the simulation model is not ~~acceptable~~ correct.

21. (CURRENTLY AMENDED) A method for application of a part flow ~~model~~ for a programmable logic controller logical verification system, said method comprising the steps of:

constructing a simulation model of a part flow model in a manufacturing line using a computer by selecting a part generator, generating a part with the part generator, and moving the generated part to a location;

~~playing~~ executing the simulation model of the part flow model by, wherein the simulation model interacts with a PLC logical verification system;

determining ~~whether~~ if the part flow represented in the simulation model is ~~acceptable~~ correct;

modifying the part flow represented in the simulation model if the part flow represented in the simulation model is not ~~acceptable~~ correct;

testing PLC code if the part flow simulation model is ~~acceptable~~ correct; and

using the tested PLC code ~~to build a~~ and implementing the manufacturing line
according to the part flow simulation model.